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PATENT
Atty Docket No.: 47434-00058**Amendments to the Claims**

This Listing of Claims replaces all prior versions, and listings, of claims in this application.

1. (Original) A soldering iron tip, comprising:
a heat-conducting copper or copper alloy core; and
a metal particle sintered member connected to the core to transfer heat therefrom to thereby form a working end of the soldering iron tip.
2. (Original) The soldering iron tip of claim 1 wherein the metal particle sintered member includes a sintering base material or a sintering base material and a sintering additive.
3. (Original) The soldering iron tip of claim 2 wherein the sintering base material includes at least one of iron particles, nickel particles, and cobalt particles.
4. (Original) The soldering iron tip of claim 3 wherein the iron particles used for the sintering base material are iron particles have a purity of no less than 99.5%.
5. (Original) The soldering iron tip of claim 2 wherein the content of the sintering base material in the metal particle sintered member is between 60% and 99.99%.
6. (Original) The soldering iron tip of claim 1 wherein the metal particle sintered member is a cap having a wall thickness of 200 to 800 microns.
7. (Original) The soldering iron tip of claim 1 wherein the metal particle sintered body comprises a sintering base material and a sintering additive, and wherein the sintering additive is at least one of silicon particles, copper particles, silver particles, tin particles, boron particles, ceramic particles, and carbon particles.
8. (Original) The soldering iron tip of claim 7 wherein the content of the sintering additive in the metal particle sintered member is between 0.01% and 40%.
9. (Original) The soldering iron tip of claim 1 wherein the soldering tip is adapted to be provided on a main body having a heating element.

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10. (Original) The soldering iron tip of claim 1 wherein the soldering iron tip is adapted to be provided as a replaceable suction nozzle on a main body having a heating element.

11. (Original) The soldering iron tip of claim 1 wherein the core includes a tapered portion and the metal particle sintered member is a cap on an end of the tapered portion.

12. (Original) The soldering iron tip of claim 11 further comprising silver particle/powder paste between the cap and the tapered portion.

13. (Original) The soldering iron tip of claim 11 wherein the cap is formed on the tapered portion.

14. (Original) The soldering iron tip of claim 13 wherein the core includes a base portion and the tapered portion extends out from the base portion.

15. (Original) The soldering iron tip of claim 11 wherein the metal particle sintered member is only on a forward tip of the tapered portion.

16. (Original) The soldering iron tip of claim 11 wherein the tapered portion includes a tip and a connecting portion connecting the tip end to a base portion of the core, and the metal particle sintered member is on the tip end but not the connecting portion.

17. (Original) The soldering iron tip of claim 1 wherein the core includes a cylindrical member formed separately from the metal particle sintered member and to which the metal particle sintered member is secured.

18. (Original) The soldering iron tip of claim 1 wherein the core includes a cylindrical body member and a conical forward end, and the metal particle sintered member comprises a cap fitting on and covering at least substantially the entire forward end.

19. (Original) The soldering iron tip of claim 18 wherein the cap is brazed to the forward end.

20. (Original) The soldering iron tip of claim 1 wherein the metal particles used in the

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sintered member and any sintering member additive particles have a particle size of no greater than 50 or 200 μm .

21. (Original) The soldering iron tip of claim 1 wherein the metal particle sintered member includes a first layer and a second layer and wherein the first layer defines the outer surface of the distal tip of the member.

22. (Original) The soldering iron tip of claim 21 wherein the first layer includes a sintering base material and a sintering additive.

23. (Original) The soldering iron tip of claim 21 wherein the second layer is sintered from copper particles or copper chromium particles.

24. (Original) The soldering iron tip of claim 21 wherein the second layer defines a body member having a conical end and the first layer defines a cap on the conical end.

25. (Original) The soldering iron tip of claim 21 wherein the second layer defines a rear body member and the first layer defines a forward conical tip member which interlocks with the rear body member.

26. (Original) The soldering iron tip of claim 25 wherein the rear body member includes a forward nub on which the tip member interlocks.

27. (Original) The soldering iron tip of claim 1 wherein the core comprises a pipe and the metal particle sintered member comprises a forward end member which is brazed to the pipe.

28. (Original) The soldering iron tip of claim 27 wherein the forward end member includes a rearward nub which is secured into a forward end of the pipe.

29. (Original) The soldering iron tip of claim 1 wherein the core includes an end socket and the metal particle sintered member is an elongated member having its proximal end affixed in and to the socket.

30. (Original) The soldering iron tip of claim 1 wherein the core has an end nub and the metal particle sintered member is joined to the nub and extends out therefrom.

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31. (Original) The soldering iron tip of claim 1 wherein the core includes a proximal end threaded cavity for threading the soldering iron tip in position.
32. (Original) The soldering iron tip of claim 1 wherein the core includes at its rearward end a female threaded portion.
33. (Original) The soldering iron tip of claim 1 wherein the core includes a forward end having a through-passageway, and the metal particle sintered member is on the forward end and has a through-opening communicating with the passageway.
34. (Original) The soldering iron tip of claim 33 wherein the metal particle sintered member includes a sleeve extending into the passageway.
35. (Original) The soldering iron tip of claim 1 wherein the metal particle sintered member is an iron cap, the core includes a forward extension member, and the cap is brazed to a forward tip end of the extension member with a silver paste sandwiched between the cap and the extension member.
36. (Original) The soldering iron tip of claim 1 wherein the core includes a base portion and a forward extension portion, the metal particle sintered member is at an end of the forward extension portion, and further comprising a top coating on the forward extension portion but not on a working tip end of the metal particle sintered member.
37. (Original) The soldering iron tip of claim 36 wherein the top coating is not wettable by solder, and wherein the tin alloy coating on the working end has a good wettability by solder.
38. (Original) The soldering iron tip of claim 36 wherein the top coating is a ceramic material, a cermet material or a metal.
39. (Original) The soldering iron tip of claim 36 further comprising an undercoating between the top coating and the forward extension portion, the undercoating having a heat expansion rate which is greater than that of the top coating and less than that of the material of the core.

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40. (Original) The soldering iron tip of claim 36 further comprising a sealing coating on the top coating.
41. (Original) The soldering iron tip of claim 36 wherein the top coating extends forward a short distance onto a rearward portion of the metal particle sintered member.
42. (Original) The soldering iron tip of claim 1 wherein the core has a base portion which has a rearwardly-extending cavity.
43. (Original) The soldering iron tip of claim 42 further comprising an Ag-Al-Cu alloy coating layer in the cavity.
44. (Original) The soldering iron tip of claim 42 further comprising an aluminum oxide film in the cavity.
- 45-98 (Cancelled).